

Offices of the County Executive . 101 Monroe Street . Rockville, Maryland 20850

Subject: Floodplain Regulations	Number: 24-06AM
Originating Department: Department of Permitting Services	Effective Date: February 27, 2007

Montgomery County Regulation on:

FLOODPLAINS

DEPARTMENT OF PERMITTING SERVICES

Issued by: County Executive Regulation No. 24-06AM

Authority: Code Sections 19-45 Supersedes: Regulation No. 24-06T, 108-92 AM Council review: Method 2 under Code Section 2A-15 Register Vol. 23, Issue 12

Comment Deadline: December 30, 2006

Effective Date: February 27, 2007

SUMMARY: This regulation adopts by reference, the most recent effective Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA) and updates references to the Annotated Code of Maryland, and State agencies, and County agencies.

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BACKGROUND INFORMATION: The Department of Permitting Services is proposing this amendment to the existing floodplain regulations to ensure that the most recent effective Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRM) proposed to be adopted by the Federal Emergency Management Agency (FEMA) are in force in Montgomery County and the most recent references to the Annotated Code of Maryland, State agencies, and County agencies are updated. This will ensure continued participation by the County in the National Flood Insurance Program (NFIP) and allow for Federal funding for any disaster relief in the future.

Article I - Floodplains

Section 1. Purpose and Intent

Certain areas of Montgomery County are subject to periodic inundation which may result in loss of life and property, risks to health and safety, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief. Flood losses and associated losses are created by structures inappropriately located, inadequately elevated or otherwise unprotected and vulnerable to floods or by development which increases flood damage to other lands or development. In addition, the biological values of floodplains, particularly tidal and nontidal wetlands, can be adversely affected by floodplain development.

It is the purpose of this Regulation to protect human life and health; to minimize public and private property damage; to encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future; to protect individuals from unwittingly buying lands and structures which are unsuited for intended purposes because of the flood hazards: to protect water supply, sanitary sewage disposal, and natural drainage; to reduce financial burdens imposed on the community, its governmental units, and its residents by preventing the unwise design and construction of development in areas subject to flooding; to provide for public awareness of the flooding potential; and to provide for the biological and environmental quality of the watersheds or portions thereof located in Montgomery County. The provisions of these regulations provide a unified comprehensive approach to floodplain management which addresses requirements of the Federal and State programs concerned with floodplain management; namely, the National Flood Insurance Program and the President's Executive Order 11988 of May 27, 1977, on floodplain management, the State's Waterway Construction Permit Program, State Wetlands Permit Program, the U.S. Army Corps of Engineers' Section 10 and Section 404 mit programs; and the State's Coastal Zone Management Program.



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Section 2. Authority

Montgomery County has the authority under the Flood Control and Watershed Management Act, Section 5-801 et seq., Environment Article of the Annotated Code of Maryland, to control floodplain development in order to protect persons and property from danger and destruction and to preserve the biological values and the environmental quality of the watersheds or portions thereof under its jurisdiction. Montgomery County has the authority under the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended, to adopt and enforce floodplain management regulations which meet the requirements of Code 44 of Federal Regulations Parts 55-77, et seq., in order to participate in the National Flood Insurance Program and remain eligible for federally subsidized flood insurance, federal disaster relief, and federal and State financial assistance. The irector of the Department of Permitting Services may recommend and the County Executive may adopt written regulations for administration of the provisions of Chapter 19, Article III, "Floodplain District Requirements" of the Montgomery County Code, 2004, as amended (the Code), as specified in Section 19-45, "Regulations," of the Code.

Section 3. Establishment of Floodplain District

- A. The Floodplain District includes all areas subject to inundation by the waters of the One Hundred (100) Year Flood. This includes all waterways for drainage areas as small as required to produce the identified inundations limits. Montgomery County has determined the drainage area to be 30 acres or greater. The source of this delineation within the County and all jurisdictions over which it maintains land use authority will be the "Flood Insurance Rate Maps" (FIRM), the "Flood Boundary and Floodway Maps", approved engineered Floodplain Studies by the Department of Permitting Services DPS and the Maryland-National Capital Park and Planning Commission (M-NCPPC) ultimate Development 100 Year Floodplain Map. The Floodplain District and the Official Floodplain Map are established with emphasis on the One Hundred (100) Year Flood Elevation where defined rather than the area graphically delineated on the Official Floodplain Maps.
- B. The Floodplain District will be comprised of the following subdistricts:
 - 1. Detailed Floodplain these areas are shown on M-NCPPC Floodplain Maps, DPS approved engineered Floodplain Studies, and/or FEMA FIRM maps or Flood Boundary and floodway maps, as Floodway and Floodway Fringe whichever gives higher water surface elevations.



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- 2. Approximate Floodplain those portions of land within the Floodplain District subject to inundation by the one Hundred (100) Year Flood, where a detailed study has not been performed but where a one Hundred (100) Year Floodplain Boundary has been approximated. A One Hundred (100) Year Flood elevation will be established after consideration of any flood elevation and Floodplain data available from Federal, State, M-NCPPC, or other sources. The Approximate Floodplain appears on both the "Flood Insurance Rate Maps" and "Flood Boundary and Floodway Maps" and may appear on all panels as Zone A.
- C. The Official Floodplain Maps will be the "Flood Insurance Rate Maps", and "Flood Boundary and Floodway maps" as prepared by the Federal Emergency Management Agency, approved engineered floodplain studies by DPS, or the M-NCPPC maps, whichever gives more stringent water surface elevations. Modification to an official Floodplain Map showing a lower water surface elevation than the "Flood Boundary and Floodway Maps" must be approved by the Federal Emergency Management Agency and the Federal Insurance Administration. Applicant must obtain an approved Letter of Map Amendment (LOMA) or Conditional Letter of Map Revision (LOMR) from the Federal Emergency Management Agency prior to the issuance of a building permit.
- D. Any reference in these regulations to Flood Insurance Study and Flood Insurance Rate Maps shall mean the most recent effective Flood Insurance Study (FIS) and Digital-Flood Insurance Rate Maps (D-FIRM) for Montgomery County prepared by the Federal Emergency Management Agency.

Section 4. Development Regulations

In order to prevent excessive damage to buildings and structures, the following restrictions will apply to all new construction and substantial improvements to existing structures and filling occurring in the Floodplain District. In the event a proposed building, structure, or substantial improvement is sited in two different subdistricts or in a subdistrict with two different one Hundred (100) Year Flood elevations the most restrictive regulation and/or higher flood elevation will prevail.

In the One Hundred Year floodplain the following regulations will apply:

1. All new residential development is prohibited.



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- 2. No development will be permitted unless it complies with Section 8-29 (a) of the Code and except where the effect of such development on flood heights is fully offset by accompanying stream modification and the development is approved by all appropriate State and Federal authorities. These developments must be placed outside of the Floodway Limits.
- 3. All proposals to offset the effects of development in the Floodplain by construction of stream modifications must be documented by an engineering study prepared by a Registered Professional Engineer registered in the state of Maryland and which fully evaluates the effects of such development and must be submitted with the application for a Building Permit. The report must use the One Hundred (100) Year Flood and Floodplain data as prepared by the Federal Emergency Management Agency or M-NCPPC, whichever is more restrictive and adopted as the basis of the analysis.
- 4. Existing non-conforming structures and/or development may not be substantially improved unless the effect of the proposed improvement on flood heights is fully offset by accompanying stream modifications and the improvement is approved by Wetlands and Waterway Programs, Maryland Department of the Environment and the Department of Permitting Services.
 - a. Substantial improvement of a non-conforming structure and/or development regardless of location must be constructed in full compliance with the provisions of this and any other applicable Regulation.
 - b. The modification, alteration, repair, reconstruction or improvement of any kind of a non-conforming structure and/or development to an extent or amount of less than fifty (50) percent of its fair market value, must be elevated and/or floodproofed to the greatest extent possible.
- 5. The following must not be placed or caused to be placed in the one Hundred Year floodplain: All structures, materials, fences or enclosures which may impede, retard or change the direction of the flow of water or that will catch or collect debris carried by such water, or that is placed where the natural flow of the stream or flood waters would carry the debris downstream and cause damage or detriment of either public or private property in or adjacent to the floodplain. Fences with height 42" or lower with stationary



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openings greater than 24 square inches will be permitted within the Flood Fringe area.

- 6. Developments when approved, must have the elevation of the lowest floor, as defined in the Code, of all new or substantially improved structures at or above one (1) foot above the elevation of the One Hundred (100) Year Flood. Basements, as defined in the Code, are prohibited in the One Hundred (100) Year Floodplain.
- 7. Design, Anchoring, and Materials All construction when approved, including substantial improvements, must be:
 - a. Designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure;
 - b. Constructed and placed on the lot so as to offer the minimum obstruction to the flow and height of the flood water;
 - c. Constructed with materials and utility equipment resistant to flood damage; and
 - d. Constructed by methods and practices that minimize flood damage.

8. Landscape Design

- a. Adequate ground cover must be provided for soil stabilization within the Floodplain District.
- b. Design of land contours and choice of plant materials must direct surface runoff away from structures and must not increase surface runoff onto neighboring properties.

9. Electrical Systems

- a. All electric water heaters, electric furnaces, generators, heat pumps, air conditioners, and other permanent electrical installations must be located one (1) foot or higher above the elevation of the one Hundred (100) Year Flood.
- b. No electrical distribution panels are permitted at an elevation less than three (3) feet above the elevation of the One Hundred (100) Year Flood.



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- 10. Mechanical Equipment water heaters, furnaces and other permanent mechanical installations, excluding submersible pumps, must be located one (1) foot or higher above the level of the One Hundred (100) Year Flood.
- 11. Storage Materials that in time of flooding could be injurious to human, animal or plant life must be stored one (1) foot or higher above the level of the one Hundred (100) Year Flood.
- 12. Fill As a general practice, filling within the Floodplain District is discouraged; however, where allowed, fill material must meet the following additional requirements:
 - a. Fill must consist of soil or rock materials only. Landfills, dumps, and sanitary soil fills are not permitted;
 - b. Fill material must be compacted in accordance with the Standard Proctor Test method issued by the American Society for Testing and Materials (ASTM Standard D-698) to provide the necessary stability and resistance to erosion, scouring or settling;
 - c. Fill slopes must be no steeper than one (1) vertical to three (3) horizontal, unless substantiating data justifying steeper slopes are submitted to and approved by the DPS; and
 - d. Fill must be used only to the extent to which it does not adversely affect adjacent properties.
- 13. Manufactured Homes and Buildings are not permitted in the Floodplain District.
- 14. Accessory/Appurtenant Structures These structures, including but not limited to detached garages and storage structures, may be permitted within the Floodplain District provided that:
 - a. The structure is designed and constructed to withstand hydrostatic flood forces and must be constructed with water equalizing vents.



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- b. The applicant/owner of the structure signs a nonconversion agreement stating that the structure will never be converted to habitable space, and has it recorded in the land records of Montgomery County.
- c. The structure must be constructed and placed on the site so as to offer the minimum resistance to the flow of floodwaters.
- d. Any mechanical, electrical, heating and other utility equipment must be elevated to or above the level of the One Hundred (100) Year Flood or floodproofed.
- e. The structure must meet the provisions of Article I, Section 4.A.15 of this Regulation.
- f. The structure must not be constructed and placed on the site in such a manner that will cause an increase in the upstream and downstream elevation.
- 15. Enclosures Below Lowest floor Fully enclosed areas below the lowest floor, including but not limited to crawl spaces, solid footings, and continuous foundations, must be designed and constructed to withstand hydrostatic flood forces and meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding must be provided.
 - b. The bottom of all openings must be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they cause minimal restriction to the entry and exit of floodwaters.
- 16. Stream Valley Protection Setback Requirement

A minimum 100 foot stream valley setback shall be maintained from the edge of the banks of any watercourse delineated as having a floodplain on the official floodplain maps except where the floodplain limit is less than 100 feet from the banks, then the minimum



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stream valley protection setback must be the floodplain limits. To prevent erosion, natural vegetation must be maintained in this area. Where natural vegetation does not exist along the watercourse, and conditions for replanting are suitable, high priority must be given to planting trees in the setback area to stabilize banks and to enhance aquatic resources.

- B. In the Approximate Floodplain the following regulations apply:
 - 1. The DPS must obtain, review and reasonably utilize any one Hundred (100) Year Flood elevation and Floodway data available from a Federal, State or other source such as the U.S. Army Corps of Engineers and Soil Conservation Service, the Maryland Department of the Environment, M-NCPPC, or any other regional planning organization in the enforcement of Regulations within the Approximate Floodplain;
 - 2. When the One Hundred (100) Year Flood Elevation is not known, the DPS, in consultation with the Maryland Department of the Environment, will evaluate each site and establish an approximate one Hundred (100) Year Flood Elevation by determining the elevation of a point on the Approximate Floodplain boundary by a method acceptable to FEMA; and
 - 3. The Development Regulations of Section 4, Subsection A of this Regulation will be applied within the Approximate Floodplain.
 - 4. In cases in which development is proposed in the vicinity of unmapped streams, which have no delineated 100-year floodplains as defined in Section 3.A. of this Regulation, the 100 foot stream valley protection setback from the banks of the stream described in Section 4.A.16 may be used. In addition, State permits may be required and applicants are advised to seek a determination from the State Department of Natural Resources as to whether they are required.
- C. In the Floodplain District, the design, placement and construction of all utilities require a Floodplain District Permit unless exempted by Chapter 19-36, subsections 4 and 5 of the Montgomery County Code, and must meet the following requirements;
 - 1. New or replacement private water well supply systems and/or sanitary sewage systems must be designed and floodproofed to eliminate or minimize infiltration of flood waters into the systems and discharge from the systems into flood waters, and to avoid



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impairment during flooding and to minimize flood damage.

- a. Cesspools, seepage pits, and absorption fields and septic tanks are prohibited within 25 feet of the Floodplain District.
- b. All pipes connected to sewage systems must be sealed to prevent leakage.
- 2. All underground gas, electrical and other facility and utility systems must be located, constructed, and floodproofed to eliminate or minimize flood damage.
- 3. All new storm drainage facilities within and leading to or from the Floodplain District must be adequately designed, floodproofed, and installed to eliminate or minimize property damage resulting from the flood waters of the One Hundred (100) Year Flood and to minimize adverse environmental impacts due to their installation and use.
- D. Encroachment in wetland areas. Encroachment by development into wetlands is not allowed without State and Federal permits. It is State and Federal policy that disturbance of wetlands must be avoided. The applicant must demonstrate to the appropriate State or Federal Authorities that no alternatives exist and the encroachment is the minimum necessary. Mitigation may be required by the appropriate regulatory authorities.

Section 5. Floodplain District Permit Requirements

A Floodplain District Permit is required for all development including, but not limited to, construction of and/or substantial improvements to buildings and structures, fill, temporary development, new or replacement infrastructure, or any combination thereof in the Floodplain District and may be granted only after necessary permits from the Maryland Department of the Environment and all other applicable State and federal agencies have been obtained.

- A. The Application for a Floodplain District Permit must be submitted to DPS and must contain information including, but not limited to, the following:
 - 1. Name and address of applicant. The applicant/permittee must be the owner or an authorized agent of the owner;
 - 2. Name and address of owner of land on which development is proposed;



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- 3. Name and address of contractor:
- 4. Site location;
- 5. Copies of the permit or a written statement from the issuing authority indicating that a permit is not required from the U. S. Army Corps of Engineers, and/or Wetlands and Waterway Programs, Maryland Department of the Environment where applicable.
- 6. An engineered plan of the site showing the size and location of the proposed development as well as any existing buildings or structures;
- 7. Plans drawn to scale, showing the location, dimensions and contour with elevations in mean sea level/NGVD of the site in relation to the stream channel, shoreline, Floodplain District and Floodplain District subdistricts;
- 8. For substantial improvement to an existing structure, an appraisal performed by a professional real estate appraiser of the fair market value of existing structure (less land value) to which the substantial improvement is associated;
- 9. Summary description of proposed work and estimated cost; and
- 10. Depending on the type of development and/or structure involved and for structures to be elevated above the one Hundred (100) Year Flood Elevation, the following information must also be included in the Application:
 - a. The size of the proposed structure(s) and its position on the lot where it is to be constructed;
 - b. The elevations of the proposed final grading and lowest floor, and the existing ground and one Hundred (100) Year Flood Elevation established by the Official Floodplain Map and as certified by a Professional Engineer or Surveyor registered in the State of Maryland;
 - c. The method of elevating the proposed structure, including details of proposed fills, pile structures, retaining walls, foundations, erosion protection measures, etc.

 These plans must be prepared by a Professional Engineer registered in the State of



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- 11. Before a permit may be issued, an applicant shall submit written analysis which demonstrates that:
 - a. no reasonable alternatives exist outside the floodplain;
 - b. encroachment in the floodplain is the minimum necessary;
 - c. the development will withstand the 100-year flood without significant damage;

and

- d. the development will not increase downstream or upstream flooding or erosion.
- When the proposed development includes the relocation or alteration of a watercourse, evidence must be presented as part of the permit application that the Maryland Department of the Environment has approved of the proposed alteration or relocation. In addition, the developer must provide technical documentation and written certification by a Professional Engineer registered in the State of Maryland that the flood carrying capacity of the altered or relocated watercourse will be maintained and must notify FEMA and all adjacent municipalities of the approved alteration and relocation.
- C. After the issuance of a Floodplain District permit by DPS, no changes of any kind may be made to the application, permit, or any of the plans, specifications or other documents submitted with the application without the written consent or approval of the DPS.
- D. During the construction period, DPS or other authorized official may inspect the premises to determine that the work is progressing in compliance with the permit and with all applicable laws and ordinances. The premises are also subject to inspection by the Maryland Department of the Environment. In the event that the Department of Permitting Services determines that the work is not in compliance with the permit or all applicable laws and ordinances, or that there has been a false statement or misrepresentation by the applicant, DPS may revoke the building permit and report such fact to the Maryland Department of the Environment for whatever action it considers necessary.

Work on the proposed construction must progress steadily through project completion. Any work which resumes after a stop in work for 180 days or more requires the issuance of a new permit.



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- F. The completion certificate and the certificate of occupancy (when required for construction and substantial improvements in the Floodplain District) may not be issued until DPS has been provided with a completed Elevation Certificate prepared by a Land Surveyor or Professional Engineer registered in the State of Maryland certifying the record condition of the subject construction. The datum used on the Elevation Certificate must be Mean Sea Level as established by the National Geodetic vertical Datum of 1929.
- G. A record or log of all Floodplain District permit actions will be maintained by DPS and will be available upon request by the Federal Emergency Management Agency or its authorized agent (the Maryland Department of the Environment) during periodic assessments of Montgomery County's participation in the National Flood Insurance Program. This record will include, at a minimum, the date the permit was issued, the as-built lowest floor elevation of all new construction or substantial improvement, the issuance date of the Certificate of Occupancy, copy of the completed Elevation Certificate, and any map amendments issued by the Federal Emergency Management Agency.

Section 6. Penalties

- A. Any violation of any provision of this regulation is punishable as a class A violation as set forth in Section 1-19 of Chapter 1 of the Montgomery County Code. Each day a violation continues to exist constitutes a separate offense.
- B. The Federal Insurance Administrator and the Maryland Department of the Environment will be notified immediately in writing of any structure or property in violation of this Regulation.
- C. New or renewal National Flood Insurance will be denied for any structure remaining in violation or situated on property in violation of this Regulation.

Section 7. Miscellaneous

A. Montgomery County Liability - The granting of a permit or approval is not a representation, guarantee, or warranty of any kind and creates no liability for Montgomery County, its officials or employees.



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- B. Abrogation and Greater Restrictions This Regulation supersedes any regulations currently in effect in the Floodplain District. This regulation will not be deemed to interfere with or abrogate or annul or otherwise affect in any manner whatsoever any ordinances, rules, regulations or easements, covenants or other agreements between parties; provided, that where this regulation imposes a greater restriction within a Floodplain District, the provisions of this regulation will prevail.
- C. Interpretation In their interpretation and application, the provisions of this regulation will be:
 - 1. Considered as minimum requirements:
 - 2. Liberally construed in favor of proper flood hazard management in Montgomery County; and
 - 3. Deemed neither to limit nor repeal any other powers granted under the Annotated Code of Maryland.
- D. Partial Invalidity and Severability If any section, subsection, paragraph, sentence, clause, or phrase of this Regulation should be declared invalid for any reason whatsoever, such decision will not affect the remaining portions of the Regulation which will remain in full force and effect, and for this purpose, the provisions of this Regulation are hereby declared to be severable.

EFFECTIVE DATE: This regulation becomes effective

Approved as to form and legality

Acomponery County, Md. County Attorney's Cities

Isiah Leggett, County Executive

Jel 12, 2006